THIS GUIDE WAS LAST UPDATED ON 9/6/25. MOST RECENT UPDATES ARE In This Color Font. UPDATES ARE DONE ONLY WHEN SIGNIFICANT CHANGES NECESSARY SO ANY UPDATES ARE ALWAYS WORTH READING

ATTENTION! AS OF 08/22 FDEV HAS MADE MAJOR CHANGES TO COLONIZED SYSTEM MARKETS!

Following the advice of the guide below should still result in the desired markets, however it is likely now much more strict than is necessary.

The change Fdev did was to make the top two economies in any colonized market “immune” to cannibalism from other STRONG LINKS of other economies. (cannibalistic effects from weak links still count!!!!!) This means you would be able to essentially ignore negative effects from bodies and their features, making pretty much any economy viable on any body. In fact, it would be possible for a system with only a four slot star to be able to produce a valid market for any economy other than Refinery or industrial.

This all said, Elite Dangerous is a very complex game. Sometimes the intent of a patch is different from its final effect. We are currently collecting data and running tests. Preliminary findings suggest that “resistant” might be a better word than “immune” but it is still strong enough to greatly affect the meta. However we do not wish to make definitive claims without concrete data.

Until testing is complete, the advice in this guide should be considered for what will help make markets better, but can be ignored where it claims strongly what would hurt a market. (at least for the top two economies)

Acknowledgements:

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- **The Mercs of Mikuun**
  - **Particularly CMDR Dubior**

- The Swords of Makhai
- CMDR Allende Lives

If you have any observations to add or questions to ask, you can find the Author/Compiler of this document, pseudo6626, on the OASIS Discord: https://discord.gg/DXZz9Xk9kv please use the #colonization-help channel.

DISCLAIMER / AUTHOR'S NOTE: The guide that follows is designed to help players develop a collection of close systems that achieve three key criteria:

1) all necessary colonization commodities are present in the markets
2) The markets are, when possible, orbital with large pads
3) the markets have high supply.

To meet these goals, the guide recommendations are fairly strict on ideal body types and properties. *You don't have to follow this guide to the letter to get good markets*. And not every system has to be a min/maxed powerhouse of economy. The correct colonization plan is the one you'll want to haul for. That can be maxing economy, or role play, or prioritizing missions, or combat zones, or capitalizing on beautiful views. However you play, that's the right way. This guide is designed to help create systems to provide goods to support others. Happy Hauling!

OASIS Guide for Bootstrapping a Bubble

TL;DR - Orbital Approach

(Final Market is a Coriolis, Orbis, or Ocellus)

Need these four/five Economies	Ideal Body for Building on/around	Ideal Constructions
Refinery	Rocky Body, No Geo or Bio Signals, at least 2 surface slots and one orbital slot. HMC/MR no Geo or Bio Signals, at least 4 surface slots and one orbital slot.	Refinery Hub, at least one Civilian Surface Outpost (for surface only goods)
Agriculture	Rocky Body or HMC With Bio signals and is terraformable, but NO Geo signals and no	T2 Agricultural Settlements Large Pad

	volcanism (make sure not tidally locked!). If nothing with both bio sig and terriformable, prioritize bio signature only, then failing that terriformable only. Special approach: any terraformable body with bio signals and a ring. Starport **MUST** be an asteroid base.	Space Farms (orbital)
Industrial	Icy Body with **NO SIGNALS** (geo, bio, or volcanism)	T2 Industrial Settlements Large Pad
High Tech	Non-Landable Body approach: Ammonia no rings or bio signals. As many slots as possible Landable Body approach: icy body with **GEO** but no **BIO**. ***(won't produce H.E. Suits)*** Special approach: any body with bio, geo or ideally **both signals** and a ring. Starport **MUST** be an asteroid base. ***(won't produce H.E. Suits)*** ***Only Ammonia approach likely to produce H.E. Suits in orbital port***	Orbital: T2 Medical Research Installation Surface: T2 Research Bio Settlement Large Pad Special: T2 Research Bio Settlement Large Pad, asteroid base. Research Station (orbital) Scientific/High Tech Hubs depending on desired services (See appendix I for details)
Military	Any main sequence star with at least 3 orbital slots	T2 Military or Security Installations Military Settlement Military Hub (there is a prereq chain)

TL;DR - Surface Approach

(Final Market is Planetary Outpost or Port)

NOTE: PLANETARY INDUSTRIAL AND SCIENTIFIC OUTPOSTS INITIALIZE WITH 50% ECONOMIES, NOT 100% LIKE OTHER OUTPOSTS.

Need these four/five Economies	Ideal Body for Building on/around	Ideal Constructions

Refinery	Same as orbital approach	Refinery Hub, at least one Civilian Surface Outpost (for surface only goods)
Agriculture	Same as orbital approach	T2 Agricultural Settlements Large Pad
Industrial	Any body (prioritize high surface slot counts) ***WITH GEO Signals***	Planetary Industrial Outpost for main market, Industrial hub or T2 Industrial Settlement Large Pad for boosts
High Tech	Any body (prioritize high surface slot counts) **BOTH GEO AND BIO SIGNALS**	Planetary Scientific Outpost for main market, Scientific Hub or T2 Research Bio Settlement Large Pad
Military	Icy body no signals no volcanism	Planetary Civilian Outpost T2 Military Settlements Large Pad or Military Hubs

~~For your convenience, a spreadsheet configurator tool can be found here to allow for easy prediction of final economy percentages of starports built on/around specific bodies~~

The INCREDIBLE folks responsible for SRVsurvey have created Raven Colonial which puts the above spreadsheet calculator to shame. STRONGLY recommend this, even as a stand along web based companion app. No need to have or use SRVsurvey or any downloaded application.

Introduction:

To be able to supply the creation of any colonization construction, the following commodities and their quantities are needed:

Commodity	amount needed for one of largest build	Economy Type
Liquid Oxygen	16658	Refinery
Pesticides	416	High Tech
Surface Stabilisers	4041	Refinery

Water	7084	Agricultural
Evacuation Shelter	991	High Tech
Survival Equipment	242	Industrial
Beer	1036	Agricultural
Liquor	431	Industrial
Wine	825	Agricultural
Animal Meat	235	Agricultural
Coffee	234	Agricultural
Fish	119	Agricultural
Food Cartridges	598	Industrial
Fruit and Vegetables	418	Agricultural
Grain	254	Agricultural
Tea	563	Agricultural
Ceramic Composites	5375	Refinery
CMM Composite	50351	Refinery
Insulating Membrane	1496	Refinery
Polymers	2984	Refinery
Semiconductors	449	Refinery

Superconductors	620	Refinery
Building Fabricators	2688	Industrial
Crop Harvesters	693	Industrial
Emergency Power Cells	336	Refinery*
Geological Equipment	683	Industrial
Microbial Furnaces	458	High Tech
Mineral Extractors	542	Industrial
Power Generators	299	Industrial
Thermal Cooling Units	232	Industrial
Water Purifiers	231	Industrial
Agri-Medicines	259	High Tech
Basic Medicines	120	Industrial
Combat Stabilizers	128	High Tech*
Aluminium	47419	Refinery
Copper	2834	Refinery
Steel	70088	Refinery
Titanium	39874	Refinery
Advanced Catalysers	314	High Tech

Bioreducing Lichen	790	High Tech
Computer Components	450	High Tech
H.E. Suits	275	High Tech
Land Enrichment Systems	299	High Tech
Medical Diagnostic Equipment	213	High Tech
Micro Controllers	100	High Tech
Muon Imager	319	Industrial
Resonating Separators	92	High Tech
Robotics	502	High Tech
Structural Regulators	2548	High Tech
Military Grade Fabrics	79	Industrial
Biowaste	931	Extraction
Battle Weapons	79	High Tech*
Non-Lethal Weapons	150	High Tech
Reactive Armour	79	High Tech

As can be seen from the list, we only actually need four key economies: Industrial, High Tech, Refinery, and Agricultural (and potentially military if you don't want to max out HT). Depending on the scale of your endeavors, you may want an additional Refinery system, for a total of just five to six “core" supply systems.

With the exception of Emergency Power Cells (which can ***only*** be sourced in Bubble), and battle weapons & combat stabilizers (which require specific government types) any system can produce any economy type and thus any commodity. (technically, if your faction is a Federal Theocracy you won't be able to make beer or wine). ***However***, the colonization mechanics make it such that specific properties of systems can make certain economies significantly more favorable for particular bodies. Furthermore, while the allure of a "one stop shop" system is strong, mixing strong economy markets in a single system can have unintended consequences, so it is recommended by this guide to have single economy systems. If you need to mix, "safe" mixes (read as least self-destructive) include: Military/Refinery, Agg/Refinery, and HT/Refinery. We use safe very very loosely here, best bet is don't mix.

There is one exception to the don't mix rule: if you ***only*** care about producing outposts (ie, as a hub in a long colonization chain effort) you can afford some degree of cannibalization as long as the specific commodities needed for outposts are not lost. For example, one T2 Agriculture settlement, two Refinery Hubs, and one civilian planetary port on a Rocky planet with bio signals and a ring can generate 11 of the 19 commodities needed for an outpost. Experimentation with this amazing tool from the Colonia Census folks can help you in deciding if you choose to mix economies for this purpose

Here is the Theoretical Minimum amount of information you need to know about the current colonization meta to build your core economies:

1) After fully discovering a system, you can view the system map in architect mode by selecting the  icon on the left hand menu bar. This shows the number of surface and orbital slots for each body. (slots are were you build stuff)

2) One of these slots will have a *very tiny* flag in it instead of a plus. **That is where the primary starport (the one you pick at claim) will go!**

3) Orbital starports only form strong links with constructions on ***the specific body they orbit*** as well as with other orbital constructions that orbit ***the same body***. They can only form weak links with anything else. Links affect the economy of ports, and weak links are 8-16x weaker than strong ones.

4) Strong links from T2 constructions (things that cost T2 points), are **twice as effective** on the economy as links from T1s (cost no build points to make). Orbital Outposts **do not** generate weak links. Planetary Outposts can and will generate strong and weak links and in fact civilian planetary outposts will push

links for **every** economy they initialize with, so be careful!

5) In reality, it's usually easiest and most efficient to have just one body in a system that is the "main body" that you build on/around. So as long as there are enough total slots in the system to earn all your T2 point needs, **high body count systems don't really matter!**

6) Only build an Orbis, Coriolis, or Ocellus as your primary (first) starport for two reasons:
    a) to get a big population boost to start (especially around ELW and WW which provide a 40x multiplier and 30x multiplier respectfully)
    b) If the primary starport slot is already over the "main body" in the system that you have targeted for development.

7) For most economies, you are looking at one T2/T3 space port and 2-3 T2 planetary hubs or settlements. That's a total of 3-4 total T2 points .So you'll need an additional 3-6 T1 builds to generate enough points. (2-3 if your primary starport was an outpost somewhere other than the "main body"). This puts the **absolute minimum** number of slots needed for a system at 9 (3-4 of which are surface slots on the target body with at least one orbital slot).

8) For the "useless" T1 builds used to generate the T2 points, we recommend **Orbital Communication Stations** as they increase system security and provide a +3 tech boost while: being cheap, not needing surface slots, and *have no economy type influence*. Military orbital outposts are another security option, and also provide a small population boost, but are three times the material costs of Comm Stations.

9) For T2 surface builds, there are two main options: Settlements and Hubs. Each has their pros and cons and differently affects the system properties, as well as unlock access for things like Universal Cartographics and Vista Genomics. For a detailed pro/con comparison of settlements vs hubs, see the chart at the end of this document.

10) If all you care about is generating economies to provide enough commodities to colonize surrounding regions without trips back to the bubble, then you can technically ignore all system-wide stats (Tech, Dev, SoL, Wealth, and Sec). But we *strongly* recommend you pay attention at the very least to security (Sec). Especially if your stations end up being a couple thousand Ls away from the main star, low security can result in **many** annoying interdictions. A more in depth guide for security is presented at the end of this doc. Other than that, development (dev) seems to supercharge early economic growth but the effect tapers off as dev increases. Tech affects what ships and models are available in outfitting and shipyards as well as needing 35tech to unlock shipyard and Outfitting on stations. Standard of Living (SoL) and Wealth are more nuanced in their effects and there is not much recorded evidence of them. Sec, dev, wealth, and SoL collectively *may* have an effect on how easily a system can be pushed into certain faction

states (like Boom and bust). This is also not fully evidence based but a table will be provided at that end of this doc with current theories.

11) While weak links are, by definition, weak they ***can*** wreck a station's economy if you don't pay attention. Even small amounts of influence (even just 20-40% or 4-8 weak links) from another economy type can rob your efforts of key commodities. This is why we so strongly recommend single economy systems.

12) It appears that *civilian surface outposts* push up 40% T1 Strong links for **each** economy that it generated when it was initialized. (Example: A civilian outpost on a rocky body with bio signals will send up 0.4 REF, as well as 0.4 BIO and 0.4 TER). This means colony typed surface outposts should be used very carefully to avoid mixing in unwanted economies to your starports!

13) Population is just as important as the overall economy % for a strong market. Both ELW and WW offer boosts to system population. Even if you don't use them for the market, consider building in systems with them and T2 systems In orbit of them for the sizable population boots they can provide. **ANY SYSTEM WITH A WW OT ELW AS THE PRIMARY PORT SHOULD BE STRONGLY CONSIDERED.** Slapping a Coriolis or Orbis down as the primary port on one of these worlds will cause a **massive** population spike while having a fairly minimal effect on other starport economies. Even smaller slot candidate bodies for an economy are worth it for systems with WW or ELW primary bodies

14) There seems to be bugs reported that building a second coriolis in a system will screw with the population causing drops and sluggish growth. We are still working to get verified current examples of this in action. In particular, building a Coriolis or T3 over an existing planetary port can reset the port's population contributions. So consider building those in reverse order if possible.

15) THE FORMATION BONUSES FROM GEO SIGNALS, BIO SIGNALS, AND RINGS *DO NOT STACK* WITH THE PLANETARY FORMATION BONUS. For example, if you create a Coriolis around a Rocky body that has a geo signal, it would come in as: 140% Refinery (from rocky body) 140% Extraction (from geo signal) and 140% industrial (from geo signal). *HOWEVER*, that same coriolis around an icy body would create: 140% Industrial (from icy body) and 140% Extraction (from geo signal). We do not get 240% Industrial as you might expect. The same effect happens for geo signals and HMCs, and Rings and HMCs.

16) The point cost of T2 and T3 *PORTS* INCREASES for each consecutive one built after the first *planned* non-primary (primary=built as part of claim process.). The costs increase for ***both*** T2 and T3 ***ports*** whenever *either* is put down (not constructed) past the first. The growth for T2 ports is an additional 2 each so 3 - > 5 - > 7.... The growth for T3 is an additional 6 points so 6 -> 12 - > 18 - >... What does this mean? Two things: First, you are better off not having more than two to three T2/T3 **ports** in a system, so further reason to focus on single economy systems. Second, if you do plan to have more than two or so, it

is almost always preferable to build the T3 ***before*** the T2, since its point growth is far more aggressive and building *either* increases costs of *both*.

Scouter's Cheat Sheet:

when scanning through systems for good candidates, here is a cheat sheet of key look-fors ordered by importance:

1) Any System with **Black Holes, Neutron Stars, or White Dwarfs**
2) Any System with **Water Worlds or Earth Like Worlds.** If they are the **primary port (**have the tiny flag in their orbital slots) that is ideal.
3) **Ammonia Worlds** with large orbit slot numbers and **NO RINGS!**
4) **Pure Rocky Bodies (no signals or volcanism)** with highest surface slot count possible
5) **Pure Icy Bodies (no signals or volcanism)** or Icies with **Only Geological Signals** and at least 3 surface slots and 1 orbital.
6) **Terriformable Rocky Bodies** (ideally with bio signals but no geo or volcanism)
7) **Pure HMC/MR (no signals)** with as many surface slots as possible.

Remember, the goal here is to create a hub of industry to support colonization efforts. So absolute system perfection is less important than overall proximity. Four doable systems within 15ly of each other is preferable to perfect systems 50ly apart. Try to identify the hardest to source systems (items 1, 2, or 3 above) and then look around them. If you have to pick one to focus on finding, high slot count rocky body systems are the most impactful. **WE STRONGLY RECOMMEND FINDING/UTILIZING SYSTEMS WITH WW OR ELW, (ESPECIALLY AS PRIMARY PORTS) WHEREVER POSSIBLE**. Making sure to do a Coriolis or larger for the primary port unless an outpost is absolutely necessary.

And now, crash course guides for identifying and developing a system for each of the 5 key economies, ordered by need priority:

Refinery:

Scouting a system: Biggest rule of thumb here is ***never build on an icy or rocky ice planet or one with geological signals!**** All of these push industrial economy towards your ports, which can decimate key commodity production for refinery. Do not allow industrial to even sneeze at your refinery markets. This includes weak links. The ideal body for refinery economies is a **Rocky body** with no geological features or biological signals and at least 2 surface slots. Volcanism is ok, as extraction does not cannibalize colonization refinery commodities. Infact, HMC or Metal Rich bodies also work, with same restrictions on no Bio or Geo signals, and in arr equivalent as any equivalent rocky body with two fewer surface slots. You'll want an absolute minimum of two surface slots, with more the better, and at least one orbital slot. As for all builds, a small Distance to Arrival is ideal, and having the primary starport slot is the dream.

**The one exception to the no icy body rule is if it has a ring and an asteroid base is used as the starport. Asteroid Bases come pre-typed for extraction and so don't inherit the industrial typing. That said, if a Rocky body of comparable slot size is available, it is preferred as it provides a refinery boost.*

Build Sequence: The sequencing bug seems to be a thing of the past so order is less critical than before, but this is the general rule of thumb:

Case 1 - primary starport not orbiting target body

a) primary starport outpost (scientific provides tech boost as well as UC access, military adds security.))
b) Civilian Planetary Outpost on target body. (Civilian to copy the planet economy typing since no refinery settlements exist. This will provide access to the Refinery goods that are surface only).
c) One T1 Filler build, Com Stations recommended but the occasional mining outpost is ok too. Avoid anything pumping industrial or high tech
d) If the target body is a rocky body, consider a Coriolis at this point to begin getting some refinery goods in orbit. Otherwise skip to step e.
e) 2 to 3 more T1 filler builds, or an amount equal to however many remaining surface slots you have on the target body
f) As many Refinery Hubs as will fit on the target body. (Breaking the "settlement over hub" rule of thumb because no refinery settlements.)
g) If d was skipped, make Coriolis now.

(if wanting to do a larger port like Orbis or Ocellus, skip part D and instead build N many Government Orbital installations, where N is 6 minus the number of Refinery Hubs you are able to build on target body. Note: this means you will need a system with a total of at least 15 slots, with a minimum of 8 being orbital.)

Case 2: primary starport slot orbits target body.

a) If the situation allows, begin with either an Orbis or Ocellus. But this is a massive time and slot savings, a Coriolis is perfectly fine.
b) Continue as case 1 starting at step B but skipping step D/G.

Agriculture:

Scouting a system: Agriculture is a bit counter intuitive. The body types that provide direct agriculture economies are ELWs and WW, neither of which are landable and thus will have no surface slots. Additionally, they add other economies as well, not just agriculture. Because agriculture products are universally imported, any economy type present other than agriculture will cannibalize the commodities and should be avoided where possible. Final nail in the coffin for ELW and WW? *There are no T2 orbital agriculture installations*. Meaning you cannot create any T2 strong agriculture links around ELW or WW, T1 only. On the other hand, bodies with Organic signals or that are terraformable will also have an agriculture boost. These still will bring along other economies, but have the advantage of having surface slots. **Rocky Bodies OR HMCs** with **Bio Signals** and are **Terraformable** but have **no volcanism, Rings, or Geo signals** are ideal. *Make sure the body is not tidally locked!!!*. Also avoid icy bodies as they hurt agriculture. As for all builds, a small Distance to Arrival is ideal, and having the primary starport slot is the dream.

Special Case: If you are lucky enough to find any landable body with bio signals AND a ring (and ideally terraformable), you can use a sneaky little hack via the Asteroid Base Starport. See, asteroid bases *are not affected by the local body upon creation.* This means asteroid bases around Gas Giants, HMCs,Icy Bodies, etc all will have a simple 140% Extraction economy and that's it. (assuming pristine reserve +40% bonus). *However*, they **do** still form strong links with planetary facilities, which **will** be boosted by the planetary features *for the specific economy they link*. All to say, an asteroid base around an icy body with bio signals will be "born" with just 140% extraction economy. Placing a T2 Agriculture settlement will push 80% AGR to the asteroid base, and the bio signals will boost that to a final effect of %120 AGR. As can be seen, this allows you to ignore every economy but Extraction for any body with a ring that is landable. Unfortunately, extraction is still not a great economy for agriculture and will cannibalize more than the Ref from a plain old Rocky Body. So This approach is only recommended if you can get a high slot planet or there is no suitable Rocky Body with Bio signals and reasonable slot counts available.

Build Sequence: The sequencing bug seems to be a thing of the past so order is less critical than before, but this is the general rule of thumb:

Case 1A: primary starport not around target body and target body is not an ELW or WW

a) Build primary starport (scientific provides tech boost as well as UC access, military adds security.)
b) Build as many space farms in orbit of the target body as possible leaving one slot for Starport.
c) Build as many space farms and/or comm stations around other bodies as needed to get the T1 points needed for as many T2 Agriculture Settlements as you have surface slots on target body, plus a Coriolis.
d) Build as many Agriculture T2 Settlements as you have slots on the target body.
e) Build Coriolis [or Ocellus/Orbis]
(Note, the T2 agg settlements produce 2 T3 points each, so it is very tempting to build an Orbis or Ocellus as a final spaceport instead of a Coriolis. But that's also 4x the hauling and you'll likely never need that much production of agriculture commodities, so may not be viable.)

Case 1B: primary starport is around the target body which is not an ELW or WW.

a) Build Orbis or Ocellus as the first port if possible, though Coriolis is fine.
b) Same as Case 1A

Case 2A - primary starport not orbiting target body, target body is ELW or WW

a) primary starport outpost (military is best)
b) Two to three space farms orbital sites. As many of which should be around the ELW or WW as possible, leaving one slot free for starport.
c) Coriolis build orbiting the ELW/WW

Case 2B: primary starport slot orbits target body which is an ELW or WW

a) If the situation allows, begin with either an Orbis or Ocellus. This is a massive time and slot savings. At minimum, consider a Coriolis.
b) Fill all remaining orbital slots around target body with space farms
c) consider some comm stations to raise security.

Industrial:

Scouting a system: The time for the icy body has finally come! Pure Icy Bodies are king (since geo signals don't grant their +1 IND to icy bodies) , followed by rocky ice. Ideally at least 3 surface slots and one orbital. As always, a small Distance to Arrival is preferable.

Build Sequence:

Case 1: primary starport not on target body

a) build primary outpost (scientific provides tech boost as well as UC access, military adds security.)
b) build as many T1 fillers as you have surface slots on the target body. Recommend Com stations (If you want to do industrial hubs, be sure to have at least one mining outpost)
c) Build as many T2 Industrial settlements (or industrial hubs if you prefer) as will fit on the target body.
d) Build Coriolis.
(if doing settlements, can generate T3 points to build Ocellus or Orbis instead)

Case 2: primary starport on target body

a) build primary as Coriolis, or orbis/ocellus if the situation allows
b) Continue as with Case 1 from step b, skipping step d.

High Tech:

Scouting a system:

So here is the thing about high tech..... On the surface, high tech is very similar to agriculture. The planetary bodies that generate High Tech economies on starport creation are non-landable. Thus, to generate the really large High Tech economy percentages (300%+) You want to instead look for Icy bodies with Geo signals and nothing else. ***HOWEVER!!!*** There is one particular High Tech commodity that is used in many colonization constructions: H.E. Suits. They are *strongly* consumed by refinery, extraction, and industrial economies. Unfortunately, between them those three make up the default generation economies for ***all*** landable bodies. This means that in practice ***you cannot create a HT orbital market around a landable body that produces all HT commodities needed for colonization.*** So what do you do? Four options:

Option 1) be insanely lucky and find an ammonia world with no rings and at least 3 orbital slots. Bonus points if it's in a system with a black hole, neutron star, or brown dwarf. (in fact, if any of those three have 3+ orbital slots you can build around them, don't even need the ammonia world!)

Option 2) For those of us not blessed with divine luck, but who want to have orbital ports for the majority of HT commodities, the solution is to build two ports: An Orbital one around an Icy body with geo signals and large slot count, and a surface **Scientific Outpost** on the icy body. Scientific outposts are special. They ***don't*** inherit the

planet's economies, instead coming in with a default 100% HT. However they ***do*** still get strong link boots from HT settlements/hubs on the body. This lets you make a pure HT market that will stock the HE suits.

Option 3) Don't bother with the orbital port in option 2 and just develop the strong Scientific Outpost. Same product availability, less work. Only downside: all sourcing of HT commodities in your Hub will have to be from the surface port. For some haulers, this is a big turn off.

Option 4) For the orbital port purists with only slight luck: mix the Ammonia Word approach with the icy body one. The icy body with geo starport provides bulk of most HT commodities, meanwhile even just a single coriolis around an ammonia world will produce HE Suits.

Also, for those who notice that structural regulators are listed on inara as a surface only commodity like CMM or Ceramic Components, it appears that structural regulators *do* spawn in player-made orbital starports, contrary to previous convention! Thanks to Allende Lives for pointing this out!

Special Case: As with Agriculture, if you are lucky enough to find any landable body with bio signals AND a ring, you can use a sneaky little hack via the Asteroid Base Starport. See, asteroid bases *are not affected by the local body upon creation.* This means asteroid bases around Gas Giants, HMCs,Icy Bodies, etc all will have a simple 140% Extraction economy and that's it. (assuming pristine reserve +40% bonus). *However*, they **do** still form strong links with planetary facilities, which **will** be boosted by the planetary features *for the specific economy they link*. All to say, an asteroid base around an icy body with bio signals will be "born" with just 140% extraction economy. Placing a T2 High Tech settlement will push 80% HT to the asteroid base, and the bio signals will boost that to a final effect of %120 HT. As can be seen, this allows you to ignore every economy but Extraction for any body with a ring that is landable. Unfortunately, extraction is still not a great economy for HT and will cannibalize more than the Ind from a plain old Icy Body. So this approach is only recommended if you can get a high slot planet or there is no suitable Icy Body with Bio signals and reasonable slot counts available.

Build Sequence:

Option 1: Ammonia World

a. If primary port is not around the Ammonia World, build an outpost for primary starport (scientific provides tech boost as well as UC access, military adds security.)
b. If primary port is the Ammonia World, strongly consider doing a Coriolis for primary port.
c. Build a medical orbital installation around the target body.
d. build N many relay stations, where N is the number of remaining orbital slots minus 1.
e. build the final station, consider Orbis or Ocellus if you have the T3 points.

Option 2: Mixed Orbital and Surface Ports around Icy Body with Geo signals and at least 2 surface slots:

a. If primary port is not around the Icy Body, build an outpost for primary starport (scientific provides tech boost as well as UC access, military adds security.)
b. If primary port is around the Icy body, consider starting with a Coriolis as the primary port.

c. Build a scientific planetary outpost on the target body.
d. If you have additional orbital slots around your target body (after allotting one for the main Starport), build a T2 Research Bio Settlement with Large Pads. If you have no additional orbital slots, you can still build that or you can build a High Tech Hub.
e. Add up your remaining surface and orbital slots (subtracting one orbital slot for final Starport if it wasn't your primary port), then add 3 if you didn't build a Coriolis around the target body as primary port (or if you plan to make the final Starport an Orbis or Ocellus) . Build as many Comm or Relay stations as needed to earn that many T1 build points. Build these ***around other bodies in the system, not the target body!***
f. Build as many T2 Research Bio Settlements with Large pads or High Tech Hubs as you have remaining slots on your target body.
g. Build as many T2 Research and/or Medical stations around your target body as you can (while leaving one slot for final Starport unless it was your primary port).
h. Build your final Coriolis, Orbis, or Ocellus around your target body.

Option 3: Surface Port Only.

a. Same approach as Option 2, just ignore all orbital slots and orbital builds other than the Comm and relay stations needed to build the T2 surface constructions for the target body.

Option 4: Ammonia + Orbital

1. Build the primary port. If it is around the ammonia world or target body, do it as a Coriolis.
2. Build as many relay and/or Comm stations as you need T1 points for the surface slots of the target body, plus a 3 for as many coriolis as you still need for the ammonia and/or target body.
3. Fill the target body with T2 Research Bio Settlements Large Pads or High Tech Hubs.
4. Put a Coriolis around the target body, and around the ammonia world as needed.(or do Ocellus or Orbis as desired)

Military:

Scouting a System: This is a strange one. You really don't need more than a select few commodities and those don't need large supplies. Add to that the fact that *any main sequence star* will type a military economy, and you have some interesting results: A satisfactory military economy can be had in a bodiless system, provided there are enough orbital slots around the main stars.

Build Sequence:

a. Build a primary starport, if around a star go for Coriolis, Ocellus or Orbis, otherwise a scientific outpost.
b. build 1 relay station not orbiting the target star.
c. if bodies in the system, build as many T2 military settlements as there are orbital slots around the target star minus 1. (for main Starport)
d. if no bodies, build military outposts, doing your best to *not* use up the slots orbiting the target star
e. Fill all but one of the orbital slots around the target star with security stations. (if primary starport already on star then fill all remaining slots)
f. Build the final Starport if not done already.

APPENDIX I: COMPARISON MATRIX OF SETTLEMENTS VS HUBS

Below is a comparison for Settlements and Hubs for each of the economic types relevant to colonization (refinery, industrial, high tech, agriculture, and military). All Settlements are assumed to be T2 Large Pad constructions. (it's not typically optimal to do Med or Small pad settlements)

Economy Type	**Settlement Pros**	**Hub Pros**
Agriculture	+10 Standard of Living	N/A
High Tech	+10 Tech, +3 Dev, access to Universal Cartographics	There are two HT hubs, **High Tech Hub** and **Scientific Hub**. Scientific Hub: +10 Tech, access to Vista Geonomics at all outposts (also unlocked by having a Medical Installation) High Tech Hub: - 2 sec, +10Tech, +3 Wealth, Outfitting on all ports
Industrial	+3 Wealth, +9 Dev	+3 tech, +5 wealth, - 4 SoL, +3 Dev,

Military	+7 Sec, +3 Dev	+10 Sec
Refinery	N/A	-1 Sec, +3 tech, +5 wealth, - 2 SoL, +7 Dev

All Large Pad Settlements cost approx. 1,500tn less to build than Hubs and provide Two T2 points instead of hubs which provide only One T2 point

Shipyard and Outfitting are always unlocked automatically for T2 and T3 Ports (Coriolis, Orbis, Ocellus)

Additionally, T3 ports (Ocellus and Orbis) automatically get Universal Cartographics and Vista Genomics

Both Vista Genomics and Universal Cartographics can be unlocked for T1 and T2 starports if they have a strong link to a Comm installation, Satellite installation, or Relay Station.

APPENDIX II: SYSTEM STATS AND BGS

Really **REALLY** brief rundown on BGS *as it applies to faction states*. Factions can be in particular states based on a **wide variety** of factors. Some of these states are more chance based (drought, blight, public holiday). But there are 8 that are directly affected by the factions position on two *sliders*: Lockdown, Civil Unrest, None, Civil Liberty, Famine, Bust, Boom, and Investment.

(economy slider from red to blue: Famine, Bust, None, Boom, Investment. Security Slider from red to blue: Lock down, Civil Unrest, None, Civil Liberty)

Why do we care at all? Well, there have been reports that the relative size of the different segments of these sliders are directly affected by the system-wide stats. Thus, depending on how these system stats compare to each other, you could create systems that are much easier to push into a particular state than normal.

But why do we care? Well first, Lockdown completely shuts all markets down, so at the very least it is worth considering how to avoid that. But more importantly, different faction states can, in some cases, dramatically affect the buy and sell prices of specific commodities. So creating a situation where your system can easily slip into such a situation can potentially be very lucrative.

Below is the reported association between the segments of the economy and security sliders and the system wide stats. Increasing the associated system wide stat relative to the others will increase the size of that segment of the sliders:

Lockdown	Dev
Civil unrest	Sol
None	Secruty
Civil liberty	Sol
Famine	Sol
Bust	Dev
Neutral	Wealth
Boom	Dev
Investment	Sol

So as an example, to have a system that can more easily be pushed into Boom, you want to keep wealth and Standard of Living as small as possible relative to Development.

Inversely, if you want to have a stable system that is very hard to move into other states, you want to pump Security and Wealth.

For more detail on how to actually *move* the slider, there are far far better guides on BGS out there than anything I could ever put together. Check them out

APPENDIX III: BUT WHAT ABOUT SELLING?

The core spirit of this guide is helping develop strong markets to *buy* commodities from for colonization. Which is why this section is at the very end.

Here, we will briefly consider the question: can we craft strong unique systems to *sell to*? (to make money). The short answer is, "maybe?" There isn't much data for colonized markets in general and essentially none for generating markets to sell to. But there are general principles that can be extrapolated from. First, selling for profit usually takes two forms:

1. Mining or otherwise acquiring goods to sell directly.
2. Buying from one market and reselling to another.

For case 1, the primary source is mining, which means we wish to sell metals and minerals. The best buying economies for those are High Tech and Tourism. This guide has already addressed how to build strong High Tech systems. But for selling mined goods, we **STRONGLY** suggest trying the ring special case approach, as you can end up with a situation where you can mine and sell goods ***in the same ring or even instance!*** This approach will also work for Tourism, however if you plan to take this approach *and the ring is icy* we strongly recommend having at least some high tech, as **only a high tech economy will buy brollimite!**

As for building a Tourism economy, they behave pretty much identically to High Tech. Same 0.4 boosts from geo and bio signals, same formation bonus from Ammonia worlds, and same 0.4 global bonus from Black Holes Neutron stars and White Dwarfs. The only real difference is that Water Worlds will also produce a Tourism formation bonus along with agg.

Aside from strong HT or Tourism economies the next best thing you can do to generate a strong buying system is **MAX THAT POPULATION!** Especially for lucrative minerals like Low Temp Diamonds which have very low natural demand quantities, generating absurd populations is one of the best ways to hack these demands into larger values. The other most effective way is to push the system into boom or public holiday. Which means you want to try and up your Development while keeping Wealth as low as possible.

Finally, if doing the ring approach, try and target rings with Hotspots of the big ticket minerals/metals. For laser mining that's typically: Painite and Platinum for metallic rings and Brollimite, LTDs, and Tritium for icy. Strongly overlapping Hotspots (core yellow overlaps) of the same type are better, and a High or Haz Res as close to the center of a single hotpost or overlap is ideal. From there, mapping the center will maximize the gains.

Failing all that, mapping ***from/to the station in the ring*** will minimize travel time to maximize cr/hr.

Onto method 2) sourcing from one station to supply to another. A strong HT is still a great starting point here. But we need somewhere to source. Look at the top trade loops on inara for a few days and you will notice a trend among the common top traded items: silver, bauxite, Tritium, gallite.... Almost always metals and minerals. The

primary exception to this is Agronomic Treatment, which is produced by HT. So you may see where this is going.... For a fairly reliable trade loop, we want to build a strong economy, high population HT systems as close as possible to an equally strong economy, high population Extraction economy system.

The fastest way to max population is to colonize a Coriolis or higher starport around an ELW or WW. So ideally, we want two systems with one or more of ELW or WW as close as possible. One needs to have either an ammonia world or icy like described in The HT build guide earlier in this document. You can technically use the markets produced by the ELW or WW themselves, just know they are mixed with other economies and are often hard to max due to the lack of surface slots to work with. The other system will need an HMC or MR with high slot counts and volcanism if possible. By default a Geological signal or ring won't actually provide their formulation bonuses on an HMC, and the industrial that tags along with Geological Signals can strongly affect the extraction market.

However, we can actually use the ring trick again here. An Asteroid base around any body with volcanism and geo signals will get a +0.8 bonus to all extraction strong links. (again, making sure to never put an outpost on the planet or it will push the formation economies up to the Asteroid Base.)

TLDR for a strong extraction economy, either an HMC or MR with high slots and no bio or geo signals and does have volcanism is ideal. Alternatively, any ringed body with high slot counts, volcanism, and geo signals provided the starport is an asteroid base.

As far as faction states are concerned for extraction: All the extraction constructions boost wealth like crazy so pushing to boom or bust will be very difficult. You *can* try to keep security low and push to civil unrest or civil liberty, which can have some potentially beneficial results for buying and selling (civil liberty doubles the sale price of Agronomic treatments and slightly lowers the buy price of most metals and minerals). Just bear in mind low security also means more frequent interdictions!

APPENDIX IV: IF I GET INTERDICTED ONE MORE TIME...

So you built an amazing refinery economy, with multiple refinery hubs, a surface outpost full of sweet sweet CMMs, and even an Ocellus in orbit. You were clever, you built satellites for all your T1 point needs for the dev points to help jumpstart the economies. Only one problem, the rocky body has a 5,000 Ls DtA and you can't go two seconds in supercruise without getting interdicted left and right because you are sitting at an impressive -10 security. At best a massive annoyance at worst as serious hindrance. Ignoring security can have serious repercussions and render amazing economies all but useless for the frustration of getting to them.

So, how do we fix this? Well, there are levels depending on how much you value security compared to clean system economies.

For those who value economic purity above all else, the first line of defence is the Comm Station. A relatively cheap T1 point producer that adds one security while **not adding any weak links**. The option is point positive and

approx 7,000tn per security point.

Up next, Military Outposts. While they have a military economy themselves, *outposts don't push weak links*. So Iit is economically "safe". That said while it provides 2 sec points it does so at a cost of nearly 19-20,000tn so by tonnage nowhere near as efficient as Comm stations. Though it will add some moderate additional population and also adds a T1 point.

Then, there are government installations. These are orbital and provide 2 security (plus a ton of SoL and some dev) for ~10,000tn, so are more tonnage efficient than Comm stations. Plus, still no weak links. However, this is T2 installation so it's point negative for T1 points.

From here on out, we begin actively generating weak links. The most efficient "bang for your buck" for orbital installations is the Security Station. It's a T2 build (costs a T1 pt) ***and*** requires you to first build a Relay Station. The Relay station will net you 1 security point for 7,000tn and a T1 point to pay for the Security Station, but at the cost of adding a High Tech weak link to the system. The Security Station itself will get you **9 security points** for *just ~10,000tn.* That an amazing deal! But it comes at the cost of adding a military weak link in addition to the HT one from the Relay station. "Oh but what about for HT systems that's fine". Be wary, Military weak links seem particularly efficient at robbing HT systems of the precious HE suits.

Further down the rabbit hole, we have ground constructions. Military Hubs provide an almost identical security bonus and point/tonnage cost as the Security Station. (but 10 sec instead of 9), but has *two* prereqs: a security settlement and a military installation. Unless you go with a Med or Small pad settlement, this route will cost you ***three*** T1 points. But, will net an overall 19-24 security points (depending on small/med/large settlement) for between 23-30,000tn. That's less than 1,000tn/security point! But it's also at minimum 2 T1 points and three weak military links, which is enough to potentially wreck havoc on some commodity stocks.

APPENDIX V: Economy Points for Starport Formulation and Strong Link Boosts

1 = 100%

Actual economic production is a combination of total economy percentage, system population, and the economic percentage of competing economies for each commodity.

	Criterion	Agriculture	Extraction	High-Tech	Industrial	Military	Refinery	Tourism	Terraforming
Body Type of "Local Body"	Black Hole			1				1	
	Neutron Star			1				1	
	White Dwarf			1				1	
	Star					1			
	ELW	1		1		1		1	
	WW	1						1	
	Ammonia World			1				1	
	Gas Giant			1	1				
	HMC/MR		1						
	Rocky Ice				1		1		
	Rocky						1		
	Icy				1				
	Asteroid Belt		1						
"Local Body" Features **DO NOT STACK WITH THE BODY TYPE MODIFIERS ABOVE**	Biological Signals?	1							1
	Geological Signals?		1		1				
	Ring?		1						
Formational Boosts (only if economy exists at formation)	Major Reserves		0.4		0.4		0.4		
	Pristine Reserves		0.4		0.4		0.4		
	Black Hole Present							0.4	
	Neutron Star Present							0.4	
	White Dwarf Present							0.4	

Link Boosts (modifiers applied to Strong Links when formed)	Organic Signal	0.4		0.4				0.4	
	Geologic Signal			0.4				0.4	
	Tidally Locked?	-0.4							
	Volcanism?		0.4						
	Local Body is ELW	0.4		0.4				0.4	
	Local Body is WW	0.4						0.4	
	Local Body is Ammonia World			0.4				0.4	
	Low Reserves		-0.4		-0.4		-0.4		
	Depleted Reserves		-0.4		-0.4		-0.4		
	Local Body is Icy World	-0.4							
	Is Terraformable?	0.4							